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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/925,734 | 08/10/2001 | Kazuo Okunishi | 204552021000 | 4815 |

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| EXAMINER |
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QIN, YIXING

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| ART UNIT | PAPER NUMBER |
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2622

DATE MAILED: 02/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/925,734

Applicant(s)

OKUNISHI ET AL.

Examiner

Yixing Qin

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 August 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10 August 2001</u> . | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyamoto et al (U.S. Patent No. 5,701,402).

Miyamoto et al discloses a detachable process cartridge with memory for storing copying operations and information.

1. Claim 1

A process cartridge detachably attached to a main body of an image forming device, the process cartridge comprising:

- **a component for carrying out image formation; and**
- Miyamoto et al discloses in column 1, lines 12-17, that “[i]n an image forming apparatus such as a copying apparatus, it has been considered to attach a memory on an interchangeable process unit such as a drum unit and to judge the service life thereof from the content stored in the memory, such as the number of copies.”
- **a nonvolatile memory for storing first destination information to be used to control an printing operation by a control system of the main body of the**

image forming device and second destination information not to be used to control the printing operation by the control system of the main body of the image forming device.

- Miyamoto et al discloses in Fig. 3 data stored in non-volatile memory. One can see on the table on lines 55-60 of column 3, that there are various items stored in the addresses.
- Furthermore, in Fig. 7, one can see that there is a check against the serial no. stored in the memory. A failure to match a msb of 0 leads to copy inhibition.
- Also, in column 3, lines 62-65, Miyamoto et al discloses that “[t]he process conditions 1 and 2 are used for varying the high voltage condition at the image formation, according to the fluctuation in the sensitivity of the photosensitive drum 12 in the process cartridge 39.” Either description of the use of the serial number of the process conditions the information can read on “**first destination information to be used to control an printing operation...**”).
- One can also see from the above mentioned table that address 2 is a counter and addresses 5-63 are empty (i.e. at least one other destination in the memory “**not to be used to control printing...**”)

8. Claim 8

A process cartridge detachably attached to a main body of an image forming device, the process cartridge comprising:

- **a component for carrying out image formation;**

- Miyamoto et al discloses in column 1, lines 12-17, that “[i]n an image forming apparatus such as a copying apparatus, it has been considered to attach a memory on an interchangeable process unit such as a drum unit and to judge the service life thereof from the content stored in the memory, such as the number of copies.”
- **and a nonvolatile memory including an address at which data used by a control system of the main body of the image forming device is stored, a first unused address at which a prescribed value is stored and of which use by the control system of the main body of the image forming device is not defined, and a second unused address at which no data is stored and of which use by the control system of the main body of the image forming device is not defined.**
- As mentioned above in the rejection to claim 1, the serial no. or the process conditions are used for print control.
- Miyamoto et al also discloses in column 3, line 53 that a non-volatile memory is used. In the table in the same column, there is a counter there are vacant addresses 5-63 and the value is current assigned to FFFFH. None of the addresses 5-63 are used as shown in the particular table in column 3 (i.e. any could be the **“first unused address”**).
- The **“second unused address”** can be either process condition address, since they currently have the values XXXXH.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-7, 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto et al (U.S. Patent No. 5,701,402) in view of Hirst et al (U.S. Patent No. 5,930,553)

The Hirst reference discloses a consumable (toner, ink, ribbon, photoconductor, etc.) that has a memory storing information about the consumable.

2. Claim 2

The process cartridge according to claim 1, wherein

- **the second destination information is stored at an address at which a lot number of the process cartridge is to be stored.**
- The Miyamoto et al reference does disclose various information in the memory, but does not specifically disclose that the second destination could contain a lot number of the process cartridge that is not used in print control.

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- The secondary reference, Hirst et al discloses in Fig. 2 and column 3, lines 60-62 that Fig. 2 is "...one possible consumable memory segmentation scheme..."
Hirst et al defines "consumables" in column 1, line 17 as "...toner, ink, ribbon, photoconductor, developer, etc..."
- One can see from item 19a, that there is various data to identify the cartridge.
One would understand that a lot number is basically used to identify an item.
- Both references are in the art of using memory to enhance the performance of image forming parts in a printer. This will serve as the motivation for following claims using these two references.
- Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have included data for the purpose of identifying a particular cartridge in the cartridge's memory. The motivation would be to ensure that a particular cartridge is fit for a particular printer.

3. Claim 3

The process cartridge according to claim 1, wherein

- **the second destination information is in a format to be displayed on a prescribed display unit by the control system of the main body of the image forming device.**
- The Miyamoto et al reference discloses in Fig. 2 and column 3, line 45 "...an operation unit 103 for setting the copy mode." Also, it discloses in the table on column 3, that the data could be in hexadecimal form (i.e. "**displayable format**").

It does not, however, explicitly disclose the displaying of information on a display unit.

- The secondary reference, Hirst et al discloses in column 1, lines 21-24 that “...near the end of the consumable’s life, the print engine displays a message to the user on the front panel of the device or a host device...” One would understand that this front panel could be the operational unit as mentioned by Miyamoto et al and that a variety of information could be displayed – it is just a matter of design to display information from the memory instead of just a message. It is also well-known that operation units can have a display (such as a small LCD).
- The storage of information in hex and the displaying of the information on a display are also well known in the art, and it would have been obvious to one of ordinary skill in the art at the time of the invention to have a display unit to display information in the memory. The motivation would be to give users crucial information regarding the performance of the components in the printer.

4. Claim 4

The process cartridge according to claim 3, wherein

- **the second destination information is stored in the nonvolatile memory in an order displayed on the display unit.**
- The Miyamoto reference discloses in column 4, line 21 that the memory used is non-volatile.

5. Claim 5

The process cartridge according to claim 1, wherein

- **the second destination information constitutes part of a lot number of the process cartridge.**
- Again, the Miyamoto reference does not explicitly disclose a lot number not used for print control. However, the secondary reference, Hirst et al disclosed in Fig. 2 – item 19a – that there are three items stored to help identify the printing component. These together can make a lot number and the second destination information could be either of the three items in the box 19a. It would simply be a matter of design to assign a certain amount of information to a destination or lot number.
- The motivation would be to simplify the task of identification when not all data is needed in order to identify a particular component.

6. Claim 6

The process cartridge according to claim 5, wherein

- **the lot number is stored in the nonvolatile memory in ASCII.**
- Miyamoto discloses in the table on column 3, that the data could be in hexadecimal form. Since ASCII is also a well known standard in storing information, it would have been obvious to one skilled in the art to use ASCII

instead of hexadecimal.

7. Claim 7

The process cartridge according to claim 5, wherein

- **the lot number is stored in the nonvolatile memory by using ASCII and hexadecimal notation.**
- Again, as mentioned above, both ASCII and hexadecimal notation are well known, and would be obvious to use standardized notations in information storage.

9. Claim 9

The process cartridge according to claim 8, wherein

- **a median of a parameter range for controlling a printing operation is stored at the first unused address.**
- Miyamoto et al discloses in column 4, lines 17-21 that "[a]s the photosensitive drum 12 in the process cartridge 39 shows fluctuation in sensitivity, the correction value for the sensitivity is measured for each process cartridge 39, and the measured correction value is stored as the process conditions 1 and 2 in the non-volatile memory 104." The contents of the memory are shown in the table in column 4. It would be a matter of design to store the median value in a given memory address since any value of the range of values could be stored. There are also many addresses where the information could be stored.

10. Claim 10

The process cartridge according to claim 8, wherein

- **the control system of the main body of the image forming device judges a version of the process cartridge based on a value stored at the first unused address.**
- The Miyamoto et al reference discloses in the table in column 3, that there is a serial number in addresses 0-1. The secondary reference, Hirst et al, discloses in Fig. 2 (item 19a) identification information. Since version numbers are well known, it would have been obvious to one of ordinary skill in the art at the time of the invention to have a version number as a part of the serial or identification number.

11. Claim 11

The process cartridge according to claim 8, wherein

- **a frequently used value out of values stored at the first unused addresses is stored at a lower address than a less frequently used value.**
- The Miyamoto et al reference discloses in the tables in columns 3 and 4 that the needed information (i.e. information that is accessed more) is in the lower addresses of the memory and that free memory addresses take up the rest of the memory (i.e. the upper addresses).

- Furthermore, Miyamoto et al discloses in Fig. 5A and column 4, lines 40-45 that “a dummy code indicating the read-out mode [is] followed immediately by an address (A0-A5) to be read.” A5 is a part of the vacant addresses (5-63) and one would understand that frequently accessed information would be stored in A5 since storing it in higher address would cause more clock cycles in order to access since it appears in Fig. 5A that the addresses are accessed from highest to lowest.

III. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto et al (U.S. Patent No. 5,701,402) in view of Hirst et al (U.S. Patent No. 5,930,553) and further in view of the applicant's submitted prior art.

12. Claim 12

A process cartridge detachably attached to a main body of an image forming device, the process cartridge comprising:

- **a component for carrying out image formation; and**
- Miyamoto et al discloses in column 1, lines 12-17, that “[i]n an image forming apparatus such as a copying apparatus, it has been considered to attach a memory on an interchangeable process unit such as a drum unit and to judge the service life thereof from the content stored in the memory, such as the number of copies.”

- **a nonvolatile memory for storing shipment destination data showing a shipment destination district of the process cartridge and for storing a lot number of the process cartridge.**
- Although the Miyamoto reference does disclose the storage of information in the memory, they do not explicitly disclose the storage of shipment information. However, the applicant's submitted prior art in the background of the specification stats in page 1, lines 25-27 and page 2, line 1 that non-volatile memory stores information about the shipment destination.
- The Hirst reference discloses a lot number equivalent as stated in the rejection to claim 2.
- Since all three references are in the art of image processing and using memory for the storage of data in regards to an image formation section, it would have been obvious to one of ordinary skill in the art at the time of the invention to have a nonvolatile memory showing destination information and a lot number. The motivation is to enable a user or a machine to easily identify whether a cartridge is the one fitted for a particular printer.

13. Claim 13

The process cartridge according to claim 12, wherein

- **the lot number shows that the process cartridge is a value pack.**
- The applicant discloses in the submitted prior art in page 2, lines 13-19 of the specification the comparison of a standard and a value pack. It would be obvious

to include in the lot number that a cartridge is a value pack. The motivation would be to help identify items that are the same, but come in different packaging and quantities.

14. Claim 14

The process cartridge according to claim 12, wherein

- **the lot number shows that the process cartridge is a recycled product.**
- Although the references do not mention that there is a certain code for a recycled product to be placed into a lot number, they do disclose that you can store various identification information into the lot number. Since recycled products are well known, it would be obvious to one of ordinary skill in the art at the time of the invention to include information that a cartridge contains recycled parts.
- The motivation would be to provides further identification of a product.

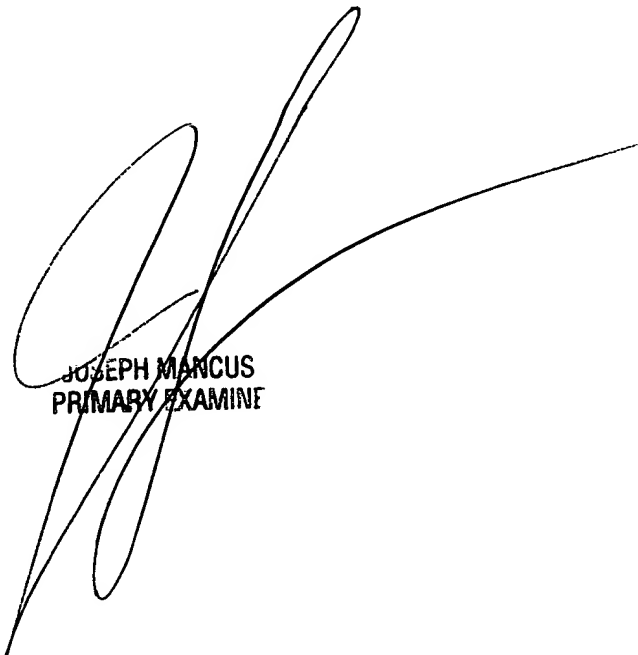
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yixing Qin whose telephone number is 703-306-4142. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached on 703-305-4712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YQ



JOSEPH MARCUS
PRIMARY EXAMINE